

# Dirichlet forms and stochastic flows

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## **Abstract:**

A general theorem allows to construct stochastic flows of random transition kernels from consistent systems of Dirichlet forms. These consistent systems describe  $n$  particle motions for all integer  $n$ . They are consistent in the sense that forgetting one point in the  $n$  point motion gives the  $n - 1$  point motion. Applications are presented, especially sticky flows for which in the two point motion, the distance process appears to be a sticky Brownian motion. It is shown that these flows have a black noise, which means that they cannot be defined by classical SDE's or SPDE's.